

Application No.: 09/503,524  
Amdt. dated: 9/13/2005  
Response to Office Action of 8/10/2005

Remarks/Arguments

Claims 10, 11, 14, 21 and 22 have been rejected under 35 U.S.C. 102(b) as anticipated by or in the alternative, under 35 U.S.C. 103(a) as obvious over Macdonald (US Patent #4,930,421). Applicant respectfully traverses the rejection based on the amendments, arguments and remarks herein. Claims 10, 11, 14, 21 and 22 have been cancelled and rewritten as new claims 23-26. Applicant respectfully submits that the new claims clarify the claimed invention and are patentable over the references whether taken singly or in any combination.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

With respect to claim 23, Macdonald discloses none of the limitations of claim 23 pertaining to determining a delay based on temperature. McDonald is directed to a traveling charge propellant system (Col. 1, L. 10-16). In contrast, the present invention is directed to conventional, non-traveling charge propulsion systems where the propelling charge is contained in the cartridge case and not attached to the projectile. Temperature conditions for such conventional systems are addressed by the present invention. Macdonald never mentions temperature and it is obvious from reading Macdonald that temperature was not considered therein.

In fact, a close reading of Macdonald and a Microsoft Word® search of the text available from USPTO.gov reveals that the word "temperature" appears nowhere in the reference. One

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skilled in the art would not be lead to use a temperature profile in firing from the reference bccause there is no suggestion that temperature is a factor to be considered in the firing sequence.

To demonstrate the patentability of the new claims over Macdonald, applicant has analyzed the sections of Macdonald cited in support of the rejection of now-cancelled claim 10 as follows:

- The section included in column 2, lines 25-50 outlines attempts to solve what is called the “projectile muzzle velocity problem.” There is no mention of reading temperature or temperature profiles or any fair suggestion to do so.
- The section included in column 5, lines 15-27 mentions sequential firing, but based only upon using a sawtooth waveform. There is no mention of reading tempcrature or temperature profiles or any fair suggestion to do so.
- The section included in column 6, lines 54-68 calculating firing sequence delays bascd on a list of factors, none of which include temperature profiling. One skilled in the art would be unduly burdened with a massive amount of experimentation to consider “other relevant factors such as the *laws of physics*” (emphasis added) to arrive at the steps of the present invention. Even if one were able to make a leap from such a vague statement to consider temperature, there is no teaching for “determining a delay by comparing the current temperature data with the temperature performance profile,” as required by claim 23 (and previously required by claim 10). Again, there is no mention of reading temperature or temperature profiles or any fair suggestion to do so.
- The section included in column 7, lines 1-21, lines 36-61 describe a firing method using an EEPROM. There is no mention of reading temperature or temperature profiles or any fair suggestion to do so.
- The section included in column 8, lines 23-48 discuss a staged firing sequence, but does not specify using temperature readings or temperature profiles, much less teaching one skilled in the art how to use temperature and temperature profiles in determining delay settings as required by the present invention.

Application No.: 09/503,524  
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- The section included in column 5, lines 55-68 discusses electrical communication of firing signals. There is no mention of reading temperature or temperature profiles or any fair suggestion to do so.

Thus, claim 23 is allowable over the references, whether taken singly or in any combination, because the reference does not disclose all of the claim limitations, particularly with regard to determination of a delay based on temperature characteristics. Because claims 24-26 depend from allowable claim 23, claims 24-26 are also allowable.

Applicant requests respectfully consideration of the withdrawn claims upon allowance of a generic claim.

**Conclusions**

For the record applicant notes that both Muskat (US Patent # 6,543,362) and Boucher et al. (US Patent #6,889,610) were both filed after and published after the filing date of the instant application and are not published prior art.

Applicants have made a diligent effort to place the claims in condition for allowance. However, should there remain unresolved issues that require adverse action, it is respectfully requested that the Examiner telephone George A. Leone, Applicants' Attorney at 763-767-2762 so that such issues may be resolved as expeditiously as possible. For these reasons, and in view of the above amendments, this application is now considered to be in condition for allowance and such action is earnestly solicited.

Respectfully Submitted,

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Date

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